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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,840	12/05/2005	Christoph Porschmann	0112740-1068	4335

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BELL, BOYD & LLOYD, LLP  
P.O. BOX 1135  
CHICAGO, IL 60690

EXAMINER
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LEE, PING

ART UNIT	PAPER NUMBER
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2615

MAIL DATE	DELIVERY MODE
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07/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/531,840

Applicant(s)

PORSCHMANN, CHRISTOPH

Examiner

Ping Lee

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 recites the limitation "the mid-point" in line 3. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagao et al (hereafter Nagao) (US006394898B1).

Regarding claims 10 and 15, Nagao discloses a method for simulating a movement in a predetermined direction relative to a reference point in the surroundings of an acoustic reproduction device, the method comprising the steps of:

a) producing at least two virtual sound sources (hoofbeats from at least two horses) via the acoustic reproduction device (speakers as shown in Fig. 3), and

b) controlling the acoustic reproduction device using a control unit (32 as shown in Fig. 3), and wherein the control unit controls a direction of movement for the at least two virtual sound sources such that the direction of movement coincides with the direction of the movement to be simulated.

Nagao fails to explicitly show that the sources are arranged in succession with regard to time. However, Nagao's system could simulate this situation. When two horses are located with one behind another constantly (and may be in equal distance apart), their respective hoofbeats (the claimed virtual source) would be located in succession with regard to time. With the race continue for more than one loop, the first horse would reach the predetermined ending point (for example, speaker 12) and back again to the starting point (for example, speaker 1). Thus, it would have been obvious to modify the control unit in Nagao to simulate the two horses with one behind another constantly. The control unit would simulate the direction of movement in counter-clock wise coincides with the direction of the movement to be simulated (the hoofbeats).

Regarding claim 11, the claimed starting point reads on the location of speaker 1, the ending point reads on the location of speaker 5, the center point reads on the location of speaker 3 and a reference point reads on the location directly in front of speaker 3 to form a right angle between the line of speaker 1 and speaker 5 and the reference point.

Regarding claims 12 and 18, as discussed in col. 3 and 4 and illustrated in Figs. 3 and 4, there is an increase in the sound intensity from the starting point (speaker 1) to the mid-point (speaker 3), and a decrease in the sound intensity from the mid-point to

the ending point (speaker 5) to simulate the movement from the speaker 1 to speaker 5 for the viewer located in front of speaker 3.

Regarding claims 13 and 17, with the two horse separated in constant distance, the speed of movement for the two virtual sound sources (hoofbeats) is inherently constant.

Regarding claim 14, Nagao teaches that at least two additional virtual sound sources could be produced (see Figs. 3 and 4).

Regarding claim 16, the control unit has a position detection device (col. 7, lines 57-59).

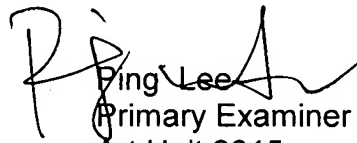
### ***Response to Arguments***

5. Applicant's arguments with respect to claims 10 and 15 have been considered but are moot in view of the new ground(s) of rejection.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ping Lee whose telephone number is 571-272-7522. The examiner can normally be reached on Monday, Wednesday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Ping Lee  
Primary Examiner  
Art Unit 2615

pwl